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# Early career job choice in logistics: Comparing shifts in attribute importance between internship and full-time roles

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# EARLY CAREER JOB CHOICE IN LOGISTICS: COMPARING SHIFTS IN ATTRIBUTE IMPORTANCE BETWEEN INTERNSHIP AND FULL-TIME ROLES

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## ABSTRACT

Maximum difference scaling was used to analyze the importance logistics students attach to 17 job attributes for internships as well as for full-time, entry-level positions. Significant differences in importance were found on nine of the 17 attributes tested. *Room for advancement* was the most important criterion for full-time positions while *atmosphere/work environment* was most important for internships. Implications for practitioners, academics and students are discussed. It is believed the results of the current study will provide useful insight to logistics employers to assist them in developing more attractive, entry-level job and internship opportunities and help them communicate more effective recruiting messages.

## INTRODUCTION

Human resources is an essential part of how a firm competes and delivers on its mission, as it ensures the right people, with the right skills, are in the right positions at the right time to achieve the right level of performance. In fact, research has shown that a successfully managed supply chain with a motivated and knowledgeable workforce supporting it can be a source of competitive advantage that enhances supply chain performance (Ellinger and Ellinger, 2013). Unfortunately, many logistics firms are dealing with the very difficult task of attracting and retaining skilled supply chain professionals (Dubey & Gunasekaran, 2015; Leon and Uddin, 2016; Partida, 2014). As a result, a number of experts have been calling for further research on supply chain talent (e.g., Cottrill, 2010; Garver, Williams and Taylor, 2011).

Logistics education, including internships, plays an essential role in business (Knemeyer & Murphy, 2002).Undergraduate logistics programs produce graduates with fundamental knowledge and skills in logistics and supply chain management and they have potential to satisfy employer needs and expectations. It is critical that logistics education programs produce graduates who are equipped with the requisite skills needed for gainful employment (Goffnett et al., 2012). Seeing that a major challenge facing many firms is how to attract and retain talent, it is important for both practitioners and educators to know job seeker preferences as it assists with attracting the best possible talent to the logistics and supply chain profession.

Some of the difficulty in attracting a supply chain workforce may be attributed to the lack of information on job selection factors. More specifically, much of the supply chain talent literature focuses on skills needed among employers from job applicants. While the stream of supply chain skills research is imperative to talent management, it does not address a primary question: what is important to the supply chain job seeker? Understanding of job seeker needs assists in talent management, as firms can use this information to make their internships and entry level positions better aligned to the needs of university logistics students. Subsequently, these

students will be more attractive to the job market. In addition this knowledge can help firms improve their message strategy, which should allow them to communicate more meaningful and persuasive messages to their recruiting targets.

## LITERATURE REVIEW

In recent years, practitioners and academics alike have demonstrated an increased interest in human resources related aspects in supply chain related literature. For example, there has been increased research attention in areas such as talent acquisition, career paths, and managing supply chain knowledge and skills (Cook, Gibson, & Williams, 2009; Ellinger and Ellinger, 2013; Goffnett et al, 2012; Langley et al, 2015). The increased interest is not surprising given that competitive disadvantage plagues organizations that lack adequate supply chain professionals (Gibson et al, 2013). The following literature review briefly summarizes logistics career research in addition to logistics internships.

### Logistics Career Research

Most of the career-related research in SCM focuses on skills needed and desired among employers. For example, studies have found that critical skills for logisticians include problem solving, communication, planning, ability to learn, decision making, teamwork, social skills, time-management, motivation/leadership, and customer service (Cook and Gibson, 2001; Gammelgaard and Larson 2001; Myers, Griffith, Daugherty, and Lusch, 2004; Murphy and Poist, 2007; Ellinger and Ellinger, 2013; Butcher, Kovacs, Tatham, and Wu, 2017). Interestingly, research has also noted the gaps in skills desired by employers and those available among logistics candidates (Goffnett, et al., 2017). Moreover, much of this logistics career research is grounded in descriptive comparisons among employers and candidates (Keller and Ozment, 2009). This has resulted in calls for additional insights using advanced research techniques (Keller and Ozment, 2009).

A smaller stream of logistics career research has identified factors in job choice. Gibson and Cook (2003) found that students place importance on factors such as organizational culture, advancement, and salary for entry-level positions. Similar results were found by Knemeyer and Murphy (2004). While these factors have been deemed critical by entry-level logistics job-seekers, employers have been called upon to develop career programs that align with individual expectations (Maloni, Scherrer, Campbell, and Boyd, 2016; Maloni, Scherrer, and Mascaritolo, 2016).

### Internships

Interestingly, there is a paucity of research that evaluates the importance of job characteristics expressed by students during the internship process. Internships, for example, provide students a chance to gain working knowledge and on-the-job training for a profession while in college. Benefits for student interns include improved job-related skills, higher job satisfaction and higher starting salaries (Weible, 2010). Other benefits are increased career opportunities, quicker job offers, faster promotions and enhanced organizational commitment (Clark, 2003; D'Abate et al., 2010; Gault et al., 2010; Hymon-Parker & Smith, 1998). Students that apply learned concepts in real-world settings improve upon the skills needed to be successful in the workplace. Moreover, internships provide direction in student learning and ultimately, career choice.

Internship programs offer numerous benefits to employers. Interns can enhance organizational knowledge and innovation by providing an influx of new skills and fresh ideas (Sides & Mrvica, 2007). Internships give employers a chance to *test-drive* potential employees in the workplace without having to make the commitments associated with hiring regular employees. This *try-before-you-buy* approach has been shown to greatly improve the likelihood of making a successful hiring decision over even the most rigorous interview-based selection process (Woodward, 1998). In addition, internship programs offer organizations the opportunity to develop connections with universities by building mutually beneficial relationships. These

relationships allow organizations to gain access to reliable sources of quality talent, which can improve the efficiency and effectiveness of their recruiting process. Universities benefit through improved placement rates, better assessment data, input from industry professionals on their curriculum, and opportunities for grants and other financial support from satisfied employers.

In highly competitive labor markets such as logistics, some believe internships are almost a necessity if a company hopes to attract quality talent (Pianko, 1996). Many companies make full-time job offers to their best interns before those students have even started their senior year of college in order to take them off the market. As a result companies who forego internships and wait to recruit graduating seniors for full-time positions are likely to find the best prospects have already accepted other positions.

Interestingly, while internship programs promise positive outcomes, limited logistics research has explored internship programs. Knemeyer and Murphy (2001) gathered input from employers on logistics-related internships. The conclusions drawn from the study suggest that students need internship experiences in order to gain "early preview" with employers. In other words, employers are using internships to find and recruit full-time employees.

In another study, Knemeyer and Murphy (2002) surveyed both intern employers and interns. The results find that interns seek experiences more focused on intrinsic values (experience; skill improvement) over extrinsic values (compensation). Moreover, the researchers conclude that dissatisfaction among interns arises when expectations on the internship experience are not met. In turn, this requires interns and employers to ensure expectations for the experience are soundly understood. Lastly, and paramount to the current study, this research suggests that undergraduates will place importance on different choice attributes when evaluating internship opportunities compared to evaluating full-time opportunities. As a potential solution to becoming an intern employer of choice, research suggests employers spend time developing great experiences, both internally and externally (Cook, et al., 2009).

**Literature Summary and Research Question**

There is an apparent need for more research that explores logistics job characteristics and the decision process or mechanism for choosing what is most important in logistics jobs at various levels of experience (e.g., intern, full-time). Given the high-level of competition that exists in the marketplace for recruiting high-quality logistics talent, to be successful in their recruiting efforts organizations need to have an understanding of what is important to job seekers. Most of the logistics related research on talent focuses on internal (corporate) perspectives of the skills employees need for success.

Thus, the primary research question becomes: what is important in job choice for logistics interns and logistics entry-level, full-time employees? In an effort to answer this primary research question, the current study seeks to determine the importance students place on different attributes of a logistics internship as well as the importance of those same attributes for a full-time logistics position. The research method used to collect and analyze data for this study will be maximum difference scaling (MD).

## RESEARCH METHOD

Maximum difference scaling will first be introduced, followed by the development of different employment attributes in two different situations, a logistics internship and a full-time position. Then, the process for data collection will be discussed.

**Maximum Difference Scaling (MD)**

Maximum difference scaling is a relatively new research method that is now being implemented by logistics researchers (Anderson et al., 2011; Coltman et al., 2011; Garver, et al., 2010). MD questions are determined by implementing an experimental design plan (Coltman et al., 2011). For each MD question, the respondent is asked to

choose the most important and least important attributes from typically four or five attributes. Typically, MD exercises contain between 7 and 15 MD questions.

Before MD, logistics researchers often used *stated importance ratings* to measure attribute importance (Garver, et al., 2010). Implementing *stated importance ratings,* researchers ask survey respondents to rate the importance of each attribute with responses ranging from "not at all important" to "very important." Although commonly used in practice, this technique has major limitations (Garver, 2003; Garver, 2009). The most significant limitation of stated importance ratings is that they often display a lack of discriminating power between attribute ratings (Cohen & Orme, 2004). It is not uncommon to find that most attributes are "very important." Chrzan & Golovashkina (2006) examined six different methods for determining attribute importance, and their research study concluded that MD is the best method available for determining attribute importance.

From a researcher's perspective, the most important advantage of MD is that the data displays much higher variance with more discriminating power than other methods (Anderson et al., 2011; Garver, et al., 2010). In part, this occurs because MD is able to capture complicated tradeoffs in which participants *must* make difficult choices. Simply put, respondents can't respond that every attribute is important, but instead, they have to select the "most" and "least" important attributes. Consistent with reality, respondents can't have it all, and therefore, must make choices about what is truly most important. Finally, MD eliminates *scale use bias* (Cohen & Orme, 2004). For these reasons, MD was implemented in this research study.

**MD Attributes**

Attributes are defined as those critical factors for logistics students when making employment decisions either for an internship or a full time position in logistics. The researchers first examined the literature and found a number of different attributes that had been examined in previous logistics research studies. After a thorough review of the literature, the researchers selected relevant attributes and then refined these attributes to be more appropriate for the logistics students in this study. Then, in-depth interviews and focus groups were conducted with logistics students to further refine the wording of the attributes. At the conclusion of this process, the researchers developed a list of 17 career choice related attributes to be examined in this study.

**MD Situations**

Recently, logistics researchers have introduced examining customer preferences within different scenarios and situations (Garver, 2016). Drawing insights from customer value theory, customers will likely have different preferences or place different levels of importance upon attributes within different situations (Woodruff and Gardial, 1996; Woodruff, 1997). For example, Garver (2016) implemented MD to model shipper preferences in different transportation situations. Garver (2016) found that customers had significantly different preferences in different shipping situations. In the current research study, the researchers examine logistics students' attribute importance scores for two different employment situations, including a logistics internship and a logistics full-time position.

Consistent with prior logistics research involving different situations (Garver, 2016), priming techniques (i.e., reading and imagining a scenario) were used to put the respondents mentally in a realistic situation. First, respondents were given a situation in which they were looking for a logistics-related internship position. In this situation, the respondents were asked to determine what attributes were "most important" and "least important" when choosing a logistics internship position. Each respondent answered a total of 11 MD questions in regards to a logistics internship. For each MD question, five attributes were displayed.

At the completion of the internship situation MD exercise, the respondents were then primed for a

different scenario. In this new situation, respondents were looking for a full time logistics-related position. Once survey respondents were mentally primed to look for a full-time logistics position, the respondents were asked to determine which attributes were "most important" and "least important" when choosing a full time logistics position. Each logistics student answered a total of 11 MD questions in regards to a full-time logistics position. For each MD question, five attributes were included again in each question.

**Data Collection Research Sample**

An email invitation was sent to all students enrolled in all market research courses at a large Midwest University. This course is required for all marketing and logistics students. This set of students was then used to identify a subset of logistics majors. Data collection took place during both the Fall (October) and Spring (February) school semesters. Because many students have multiple majors, the researchers employed a screening question which asked students about the primary field of interest they were more interested in pursuing. Only those students who selected "logistics" as their primary field of interest were included in this study. Initially, responses from 112 logistics students were collected. After data cleaning, a number of surveys were deemed to be incomplete or the quality of the responses was in question. A number of quality checks were undertaken to ensure the quality of the sample. The final sample resulted in 100 quality responses. Following the protocol of Armstrong and Overton (1977) for non-response bias, our analysis suggested that there were no significant differences between early and late respondents.

## RESEARCH RESULTS

Characteristics of the sample will be described first, followed by a discussion of the MD results in the two different situations (internships and full time positions). To examine if logistics students have different preferences across the different hiring situations, paired samples T-tests were conducted.

**Sample Characteristics**

The sample contains logistics students that are predominately male (shown in Table 1). For example, 68% of the sample is male whereas only 32% of the sample is female. The majority of students had previously completed a logistics internship (66%). For those students with a logistics internship, most of the students either had a transportation internship (33%) or an operations internship (26%), followed by either a purchasing (17%) or a planning (17%) internship.

**TABLE 1**
**SAMPLE DESCRIPTION**

| Question | Responses | Percent |
|---|---|---|
| Gender | Male | 68% |
| | Female | 32% |
| Internship | No | 34% |
| | Yes | 66% |
| Role | Purchasing | 17% |
| | Operations | 26% |
| | Planning | 17% |
| | Transportation | 33% |
| | Other | 7% |

**MD Results**

Hierarchical Bayes within Sawtooth Software's Lighthouse Studio (9.0) was used to analyze the MD data. The results from the Hierarchical Bayes analysis were rescaled so that the importance scores for each attribute would sum to 100 points, with higher scores reflecting greater importance for the attribute. The attribute importance scores should be interpreted in relative, not absolute, terms.

**Internship Situation**

Table 2 contains the MD mean scores for the attributes in an internship situation. For the internship situation, the highest importance scores were for the following attributes:

- Atmosphere / Work Environment (12.72)
- Room for Advancement (12.35)
- Culture fit with personality (10.75)
- Meaningful work (10.09)

- Work aligned with desired major (9.62)
- Interesting work (9.23)

The lowest importance scores were for the following attributes:

- Amount of work (1.68)
- Onboarding process (1.21)
- Social activities after work (.95)
- Size of firm (.30)
- Dress code (.06)

**Full-Time Job Situation**

Table 3 contains the MD mean scores for the attributes in the full time job situation. For the full time job situation, the highest importance scores were for the following attributes:

- Room for Advancement (15.08)
- Atmosphere / Work Environment (11.67)
- Culture fit with personality (11.23)
- Compensation (10.75)
- Meaningful work (8.41)

The lowest importance scores were for the following attributes:

- Amount of work (1.91)
- Onboarding process (1.40)
- Social activities after work (.52)
- Size of firm (.50)
- Dress code (.05)

Comparing Attribute Importance Scores: Internship vs. Full-Time

Depending on the attribute, there are some differences in their absolute values as well as their relative rank order of importance. To determine if a significant difference exists between the same attributes in different situations (i.e., internship vs. a full time job), paired sample T-tests were employed (see Table 4).

Results from paired sample T-tests suggest that there are statistically significant differences for nine

**TABLE 2**
**ATTRIBUTE IMPORTANCE SCORES FOR A LOGISTICS INTERNSHIP**

| Attribute | Importance |
|---|---|
| Atmosphere / Work Environment | 12.72 |
| Room for Advancement | 12.35 |
| Culture fit with personality | 10.75 |
| Meaningful work | 10.09 |
| Work aligned with desired major | 9.62 |
| Interesting work | 9.23 |
| Compensation | 7.90 |
| Relationship with Supervisor | 6.99 |
| Reputation of firm | 5.41 |
| Level of stress | 4.04 |
| Location of firm | 3.92 |
| Variety of work | 2.76 |
| Amount of work | 1.68 |
| Onboarding process | 1.21 |
| Social activities after work | .95 |
| Size of firm | .30 |
| Dress code | .06 |

**TABLE 3**
**ATTRIBUTE IMPORTANCE SCORES FOR A LOGISTICS FULL TIME POSITION**

| Attribute | Attribute |
|---|---|
| Room for Advancement | 15.08 |
| Atmosphere / Work Environment | 11.67 |
| Culture fit with personality | 11.23 |
| Compensation | 10.75 |
| Meaningful work | 8.41 |
| Interesting work | 7.60 |
| Relationship with Supervisor | 7.39 |
| Reputation of firm | 5.68 |
| Work aligned with desired major | 5.65 |
| Level of stress | 4.85 |
| Location of firm | 4.57 |
| Variety of work | 2.73 |
| Amount of work | 1.91 |
| Onboarding process | 1.40 |
| Social activities after work | .52 |
| Size of firm | .50 |
| Dress code | .05 |

of the 17 attributes, with the most extreme differences being detected for the most important attributes. For

example, "room for advancement" is most important for full time positions, yet is significantly lower for internships. "Compensation" is significantly more important for full time positions as compared to internships.

In contrast, logistics students pursuing internships place significantly more importance on the "atmosphere / work environment," "meaningful work," "interesting work," and "work aligned with their desired major."

## DISCUSSION

The paired T-Test revealed nine significant differences between the career pursuits of internship positions versus the pursuit of full-time positions. For the discussion, only the significant differences will be discussed. As previously noted, the largest differences in importance between the two career choices resides with the higher importance variables.

**Room for Advancement**

Not surprisingly, full-time career seekers place more emphasis on room for advancement. While it is still important to interns, it is far and above the most important attribute for the full-time group. As their careers begin, full-time job seekers clearly want a path for advancement. Organizations that are seeking talent should note that developing and promoting programs that allow the work force to advance is clearly beneficial. As an example, leadership development style programs have grown in popularity with supply chain related careers in recent times. In addition to creating advancement style programs, clearly communicating how they work, what is expected, and the timeframe are likely critical for implementation. While this is most important for full-time positions, employers may also want to consider such advancement with internship programs as well. This may be more realistic with longer term internship positions (ex: co-ops; 6-

**TABLE 4**
**PAIRED SAMPLES T-TESTS BETWEEN INTERNSHIP AND FULL TIME POSITIONS**

| Attribute | Internship | Full Time | P Value |
|---|---|---|---|
| Room for Advancement | 12.35 (2) | 15.08 (1) | .000** |
| Atmosphere / Work Environment | 12.72 (1) | 11.67 (2) | .000** |
| Culture fit with personality | 10.75 (3) | 11.23 (3) | 0.24 |
| Compensation | 7.90 (7) | 10.75 (4) | .000** |
| Meaningful work | 10.09 (4) | 8.41 (5) | .000** |
| Interesting work | 9.23 (6) | 7.60 (6) | .000** |
| Work aligned with desired major | 9.62 (5) | 5.65 (9) | .000** |
| Relationship with Supervisor | 6.99 (8) | 7.39 (7) | 0.241 |
| Reputation of firm | 5.41 (9) | 5.68 (8) | 0.399 |
| Level of stress | 4.04 (10) | 4.85 (10) | .027* |
| Location of firm | 3.92 (11) | 4.57 (11) | 0.161 |
| Variety of work | 2.76 (12) | 2.73 (12) | 0.898 |
| Amount of work | 1.68 (13) | 1.91 (13) | 0.135 |
| Onboarding process | 1.21 (14) | 1.40 (14) | 0.321 |
| Social activities after work | .95 (15) | .52 (15) | .014* |
| Size of firm | .30 (16) | .50 (16) | .048* |
| Dress code | 0.06 (17) | 0.05 (17) | 0.05 |

(#) indicate the rank order of importance
*statistically significant at a p value <.05
**statistically significant at a p value <.01

month internships). Academics can assist here. Working with students while on campus to explain advancement programs and timing can help set expectations for students. Finally, students should learn about various advancement programs from employers. Some leadership development programs in SCM can last up to four years as employer's cycle students through major divisions and internal functions. Developing a clear understanding that advancement can take time is a critical aspect to success in the career.

**Atmosphere / Work Environment**

This is relatively important for both groups. However, it is significantly more important for interns than it is for full-timers. This can partly be explained by the assumed lack of experience that interns exhibit. For many students, the internship is the first step into a corporate setting. Without knowing what this environment may be like, it is an area of critical importance.

As the war for talent in SCM continues, practitioners should note the importance of this attribute, particularly for interns. Many firms have started to put forth intern programs that create a fun, happy, collaborative environment for interns. Examples of initiatives include Intern Olympics (both internal and external with other firms), travel opportunities, charitable event participation, and after work gatherings, among others. Ultimately, any of these programs create experiences for interns that develop a sense of belonging with the firm. Additionally, many firms that practice these types of initiatives also use internships for full-time recruiting, whereby they offer their interns full-

time opportunities before the end of the internship period. Additionally, millennials are entering the workforce in entry-level positions in many cases having experienced these fun, exciting, and unique internship experiences. Their expectations for full-time employment therefore may not fit with the reality of the corporate cultures that they will eventually join. Firms should be cognizant of the expectations that college grads may have when entering the full- time workforce and try to find ways to bridge the gap between the internship experience and those of full time employment. For students, there are multiple implications. First, working toward an understanding of the type of work environment that fits their individual personality is key. For example, working in operational roles, such as a transportation terminal or a distribution center is much different than working in a corporate purchasing role. Second, students should understand the work environment for internships may or may not be similar in future roles. For example, some of the add-on special events designed for interns may or may not be available for full-time employees. It is advisable for students to ask those types of questions (comparing internship roles vs. full-time roles) of an employer. Academics can also assist in this process by highlighting differences and/or similarities with internship and full-time work environments.

**Compensation**

Not surprisingly, compensation is significantly more important for full-time opportunities compared to internships. It is likely that with the internship situation, students are seeking experience more than pay. Further, some internships are unpaid and yet are still filled with students year after year. When a student makes the next step toward the SCM career and looks for a full-time career, compensation becomes much more salient.

Practitioners can work on developing competitive compensation plans. Additionally, taking time to clearly communicate the total compensation package, including insurance, retirement plans, and more, are important. It is a strong possibly that students may have limited knowledge on those additional compensation areas. This is also important for academics. Providing an outlet to help students understand all the factors in a compensation plan is an important role. Students have very limited resources to understand these areas and may need additional help. Finally, for compensation transparency practitioners may want to work with academics for compensation benchmarking data. Likewise, academics can help provide value to practitioners by gathering compensation data for interns and full-time employees.

**Meaningful and Interesting Work**

The results indicate that each of these variables are more important to the intern than to the full-time job seeker. Both of these variables may very well reside from internship stereotypes whereby student myths develop on "getting coffee" and "making copies". As students seek internships, they want to make sure that they are contributing actual work value (meaningful) and engaging in work that is stimulating (interesting). This has important implications for students, firms, and academics. For students, it is important to understand that internships can involve initiatives that are somewhat less glamorous. For example, a manufacturing firm may hire summer interns to help with inventory counting. This could involve long hours in less than desirable work environments. This is where academics can help. In the University setting, academics can work with the potential interns to help set expectations. Further, academics can help students understand the meaning and importance in tasks that at face value, seem lackluster. Firms can additionally sell their opportunities here as well. Developing programs that interns engage in and letting them understand the importance is key. For example, many firms develop a large-scale project for an intern to work on during the internship. This project is in addition to day-to-day activities. The firm can sell the importance of the project to the intern. In addition, firms can work with interns to develop the project collaboratively to ensure the project aligns with the interns' personal interest. Frequently, these types of programs result in presentations to upper management, which helps to signal importance.

**Work Aligned With Desired Major**

There are numerous majors that fall under the supply chain umbrella at universities. This can include procurement, operations management, supply chain, transportation, logistics, and marketing, among others. Students often sign up for majors that they think they are going to appreciate and enjoy. However, textbook and classroom environments can be drastically different from real work environments. As such, students likely want to try a practical work environment that aligns with what they believe is their career interest (i.e., major). Importantly, academics and practitioners can align to make this easier for interns. Developing realistic job previews, case studies that mimic work environments, and guest speaking opportunities can all help educate students on what the reality of the work involves.

**Level of Stress**

This was more important for full-time seekers. This may be attributed to students learning about the stress of the career during an internship. For example, if a student worked in a production environment during an internship, he/she likely learned the importance of keeping production flowing, which is often stressful. Thus, development of understanding on workplace stress likely becomes more important as the intern transforms into a full-time job seeker. Again, practitioners and academics can coordinate efforts to develop realistic job previews. This can include a realistic expectation on the stress involved with the job.

**Social Activities After Work**

Outside activities are more important for interns. It is likely this is due to lack of experience in work environments. As interns seek that first career-related experience, they look for the sense of belonging with a firm and in the career. Outside work situations provide these types of opportunities for students. This aligns with the notion for firms employing interns to develop situations outside of work for interns.

**Size of Firm**

This attribute is more important to full-time job seekers. This could be an artifact of the greater importance that room for advancement has for full-time job seekers, since larger firms are likely to have more advancement opportunities. Alternatively, this is could be due to experience gained from an internship. When comparing internship and full-time employment, it is more likely that an intern be employed by a small/medium firm than a full-time employee. Smaller firms may be able to afford an intern, but may not be able to bring on full-time employees often. As a result, interns have opportunities with smaller firms, which does influence them as their career search starts.

It is likely that many universities are skewed toward larger firms. Case studies in class, businesses in the news, are often used to highlight class learning. It is likely that these types of learning opportunities are skewed toward firms (brands) that students know and can relate to. Additionally, larger firms are likely to have more refined recruiting and talent management programs. Specifically, larger firms are likely to have many more resources to devote to recruiting.

It is important for academics to provide understanding to students on small to medium sized firms as well. This is critically important in the SCM career path, as many transportation providers are small operations. All sized firms have advantages and disadvantages and those would be important to highlight for career choice. Academics can coordinate with practitioners to highlight small/medium size firm opportunities. This can be critical as these smaller firms have limited recruiting budgets. Further, this can be very important for universities that reside in remote geographic locations, whereby the local business community is primarily small business.

## RESEARCH LIMITATIONS

As with any research study, there are research limitations that need to be addressed in future research. For example, the sample size of 100 is

adequate but a larger sample size is always desired. Furthermore, the logistics students all come from one university. Future research should try to replicate this study looking across a number of different universities who have leading edge logistics programs.

As with any research method, MD has limitations that are important to note. The most significant limitation is the required time and effort that respondents have to expend to answer the questions. Chrzan and Golovashkina (2006) found that MD took the most time of any attribute importance methodology. Respondents may also feel that MD choices are redundant, where some respondents will feel that they have already answered the same question repeatedly. As a result, it is easy to "burn out" respondents, with the result being low quality responses. There are quality measures delivered with MD results that can detect low quality responses, but it is still a limitation.

MD shares the same limitation as other stated research techniques, where respondents overstate or understate the importance of some attributes relative to actual decisions (Garver, 2003). For example, price may be underrated in importance in a research context when compared to spending money in an actual purchase. More specifically to this study, compensation is similar to price in that it addresses money, thus it could also be underrated in this study as well. Even with these limitations, the researchers have confidence in the findings.

## FUTURE RESEARCH

We suggest that future research employ conjoint analysis to examine how logistics students make career choices. Choice based conjoint analysis is a likely research method to be employed as it is the most popular choice based research method to examine how respondents make choices. Logistics researchers have not widely used conjoint analysis research methods, but logistics researchers have called for more research using these methods (Garver et. al., 2012). Conjoint analysis is typically used with customers and examining how they make product or service choices, yet the research technique would work equally well in the context of respondents making career choices.

Likewise, Garver et. al. (2012) suggest that logistics researchers should also think about employing adaptive conjoint analysis for situations where respondents might demonstrate choices that possess "must have" or "must avoid" performance levels, similar to lexicographic decision making models. For example, it is not hard to imagine that certain logistics students would not accept job offers if the salary is below a certain level. Likewise, certain logistics students might not accept job offers that are too far from home, or if the job offer is not aligned with their primary interests. In these situations, adaptive conjoint analysis would be a more appropriate research method.

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